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10/669,311	09/23/2003	**Wayne J. Allen**	42P16359	4675

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INTEL/BSTZ
BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP
1279 OAKMEAD PARKWAY
SUNNYVALE, CA 94085-4040

EXAMINER	
LE, MIRANDA	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/669,311	ALLEN, WAYNE J.	
	Examiner	Art Unit	
	MIRANDA LE	2169	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 October 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This communication is responsive to Amendment, filed 10/28/2008.

Claims 1-23 are pending in this application. This action is made Final.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-10, 12, 13, 15-21, 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Pearson (US Patent No. 5,903,754).

Pearson anticipated independent claims 1, 9, 13, 21 by the following:

As to claims 1, 13, Pearson teaches a method/an article of manufacture *(i.e. The present invention provides a method and system for dynamically building a protocol stack for use by a communication program to establish a data transfer protocol. The protocol stack replaces fixed code segments within the communication program. One object of the present invention is to provide a method of building the protocol stack at run-time so that any current modifications to the protocol stack will be included when the communication program is executed, col. 4, line 45-53)* comprising:

querying a file *(i.e. stack description file, Fig. 2)* that defines a protocol for which protocol support is to be added to a network traffic generation and analysis tool to process network traffic *(i.e. The system includes a stack description file stored in the memory, the stack description file includes a set of protocol layer description, col. 5, line 66 to col. 6, line 16)*;

determining from the queried file how packets for the protocol are constructed *(i.e. The method of creating the protocol stack first reads a protocol layer description from a stack description file, which includes a set of protocol layer descriptions. The protocol layer description is used to establish an initial protocol layer that has a protocol interface, col. 4, line 54 to col. 5, line 6)*;

building a protocol runtime specification based on how packets for the protocol are constructed, the protocol runtime specification specifying how packets for the protocol are processed by the network traffic generation and analysis tool *(i.e. This is done by creating an object representing the protocol function. As the protocol objects are created, the method connects pairs of protocol objects using an interface from one of the protocol object pair. All protocol objects are thus connected and the connected protocol objects make up a protocol stack. The interface from a protocol object that is connected to only one other protocol object is presented to the communication program, whereby the communication program uses the interface to invoke the methods of the protocol stack, col. 5, lines 50-65)*;

receiving packets for the protocol *(i.e. The protocol layers might include functionality that controls compression, encryption, reliability, routing control,*

format conversion, etc. The features that are provided in the protocol stack are those that are important at a systems communication level, e.g., compression of the data within a message reduces the bandwidth required to transmit the data, and are not necessarily user level features. Nonetheless, certain of the same features might be desired by a particular user, e.g., encryption of sensitive messages, and these can be performed separately from the protocol stack within the user's communication program, col. 7, lines 33-44); and

processing data from the received packets in the network traffic generation and analysis tool in accordance with the protocol runtime specification *(i.e. The protocol layers might include functionality that controls compression, encryption, reliability, routing control, format conversion, etc. The features that are provided in the protocol stack are those that are important at a systems communication level, e.g., compression of the data within a message reduces the bandwidth required to transmit the data, and are not necessarily user level features. Nonetheless, certain of the same features might be desired by a particular user, e.g., encryption of sensitive messages, and these can be performed separately from the protocol stack within the user's communication program, col. 7, lines 33-44)*, including translating data from the received packets into a proper format *(i.e. The electronic mail system may also be connected to other systems, e.g., a commercial news service, via a gateway 172. A gateway is much like an MTA, although it is likely to also perform some type of format conversion function in order to match the formats of the two connected systems, col. 12, lines 52-57)* for analyzing traffic in the network traffic generation and

analysis tool *(i.e. In accordance with still further aspects of the present invention, the steps of the method are carried out by a stack builder routine. This routine can be executed during the execution of a communication program, which will use the protocol stack. In this manner, the stack description file can be modified prior to execution of the communication program, and a modified protocol stack will be created by the stack builder. This dynamic method allows independent vendors and users to modify, including deleting and adding, layers to the communication program, col. 5, lines 40-59).*

As per claim 9, Pearson teaches an apparatus comprising:

a storage element *(i.e. The system includes a stack description file stored in the memory, the stack description file includes a set of protocol layer description, col. 5, line 66 to col. 6, line 16)* to store a file that defines a protocol for which protocol support is to be added to a network traffic generation and analysis tool to process network traffic *(i.e. stack description file, Fig. 2)*; and

a translation unit coupled to the storage element to query the file to determine how packets for the protocol are constructed and to build a protocol runtime specification for the protocol *(i.e. the step of reading the stack description file includes reading the protocol layer descriptions in a predetermined order. In alternate embodiments, the protocol layer descriptions are read in a bottom-to-top order and in a top-to-bottom order. In each case, the step of connecting the current protocol layer to a previously established protocol layer uses an interface from the previously established protocol layer, col. 5, lines 7-14)*, the protocol

runtime specification specifying how packets for the protocol are processed by the network traffic generation and analysis tool *(i.e. The system also includes a stack builder executed by the processor for creating a protocol stack. The stack builder including means for establishing a protocol layer using a protocol layer description from the stack description file, each protocol layer having an interface, col. 5, line 66 to col. 6, line 16)*; and

the translation unit to further process data from the received packets in the network traffic generation and analysis tool in accordance with the protocol runtime specification *(i.e. The protocol layers might include functionality that controls compression, encryption, reliability, routing control, format conversion, etc. The features that are provided in the protocol stack are those that are important at a systems communication level, e.g., compression of the data within a message reduces the bandwidth required to transmit the data, and are not necessarily user level features. Nonetheless, certain of the same features might be desired by a particular user, e.g., encryption of sensitive messages, and these can be performed separately from the protocol stack within the user's communication program, col. 7, lines 33-44)* including translating data from the received packets into a proper format *(i.e. The electronic mail system may also be connected to other systems, e.g., a commercial news service, via a gateway 172. A gateway is much like an MTA, although it is likely to also perform some type of format conversion function in order to match the formats of the two connected systems, col. 12, lines 52-57)* for analyzing traffic in the network traffic generation and analysis tool *(i.e. and for each currently established protocol layer*

(except the first layer that is established), connecting the current protocol layer to a previously established protocol layer using an interface from that previously established protocol layers. The resultant group of connected protocol layers makes up a protocol stack that can be accessed by a communication program using the interface from a protocol layer, col. 5, line 66 to col. 6, line 16).

As per claim 21, Pearson teaches a system comprising:

a storage element to store a file that defines a protocol for which protocol support is to be added to a network traffic generation and analysis tool to process network traffic *(i.e. The system includes a stack description file stored in the memory, the stack description file includes a set of protocol layer description, col. 5, line 66 to col. 6, line 16)*; and

a translation unit coupled to the storage element to query the file to determine how packets for the protocol are constructed and to build a protocol runtime specification for the protocol *(i.e. the step of reading the stack description file includes reading the protocol layer descriptions in a predetermined order. In alternate embodiments, the protocol layer descriptions are read in a bottom-to-top order and in a top-to-bottom order. In each case, the step of connecting the current protocol layer to a previously established protocol layer uses an interface from the previously established protocol layer, col. 5, lines 7-14)*, the protocol runtime specification specifying how packets for the protocol are processed by the network traffic generation and analysis tool *(i.e. The system also includes a stack builder executed by the processor for creating a protocol stack. The stack*

builder including means for establishing a protocol layer using a protocol layer description from the stack description file, each protocol layer having an interface, col. 5, line 66 to col. 6, line 16); and

the translation unit further to receive packets for the protocol and to process data from the received packets in the network traffic generation and analysis tool in accordance with the protocol runtime specification *(i.e. The protocol layers might include functionality that controls compression, encryption, reliability, routing control, format conversion, etc. The features that are provided in the protocol stack are those that are important at a systems communication level, e.g., compression of the data within a message reduces the bandwidth required to transmit the data, and are not necessarily user level features. Nonetheless, certain of the same features might be desired by a particular user, e.g., encryption of sensitive messages, and these can be performed separately from the protocol stack within the user's communication program, col. 7, lines 33-44)*, including translating data from the received packets into a proper format *(i.e. The electronic mail system may also be connected to other systems, e.g., a commercial news service, via a gateway 172. A gateway is much like an MTA, although it is likely to also perform some type of format conversion function in order to match the formats of the two connected systems, col. 12, lines 52-57)* for analyzing traffic in the network traffic generation and analysis tool *(i.e. and for each currently established protocol layer (except the first layer that is established), connecting the current protocol layer to a previously established protocol layer using an interface from that previously established protocol layers.*

The resultant group of connected protocol layers makes up a protocol stack that can be accessed by a communication program using the interface from a protocol layer, col. 5, line 66 to col. 6, line 16);

a network interface coupled to the translation unit *(Fig. 1)*; and

a network driver coupled to the network interface *(Fig. 1)*.

As to claims 3, 12, 15, 23, Pearson teaches the method further comprising determining from the file how to display one or more user interface elements *(i.e. The electronic mail system will service multiple users (or clients) such as user computer 170. The user might be a person using the mail system or might be an automated process, such as a program that regularly reports information such as stock prices. The user-to-database connection (client-server) might be governed by a known interface such as the Messaging Application Programming Interface (MAPI) utilized in the Microsoft Mail System, col. 12, lines 44-51).*

As to claims 4, 16, Pearson teaches determining from the queried file how packets for the protocol are constructed comprises determining whether there are one or more protocol encapsulations *(i.e. If there are no more layers, at block 156, the last established protocol layer object is queried for the top-level interface. QueryProtocol is invoked to ensure that this protocol layer object supports the interface needed by the communication program, e.g., the message interface. If the interface is found, it is used by the communication program to*

enter the protocol stack through the top protocol layer object's interface. The communication program does not access any other layer, col. 12, lines 5-13).

As to claims 5, 17, Pearson teaches determining from the queried file how packets for the protocol are constructed comprises determining a field type of one or more fields for the protocol *(i.e. In accordance with other aspects of the present invention, type checking and interface requirements are used to ensure that changing of layers does not affect operation of other layers. Thus, the type of the protocol layer object is checked when it is established. Further, the interface is checked during the connection step to ensure that it is of the type required by the protocol layer object to which it is connecting. This particular implementation using object oriented programming minimizes the dependencies between layers and localizes functionality inside layers. Strict layering results in truly interchangeable protocol layers, col. 5, lines 26-39).*

As to claims 6, 18, Pearson teaches determining from the queried file how packets for the protocol are constructed comprises determining a field size of one or more fields for the protocol *(i.e. a protocol will dictate the amount of data in a packet (i.e., the size of a data chunk that is transmitted), the header information for a packet, and any other reliability or encoding that is to be done to the data that is being transmitted, col. 1, lines 26-51).*

As to claims 7, 19, Pearson teaches determining from the queried file how packets for the protocol are constructed comprises determining a default value of one or more fields for the protocol *(i.e. With reference to FIG. 5, at block 140 the stack builder process begins by initializing a layer pointer to the most recently created layer; at the beginning of the process, the layer pointer is assigned a null value, col. 11, lines 17-31).*

As to claims 8, 20, Pearson teaches determining from the queried file how packets for the protocol are constructed comprises determining whether there is a calculation to be performed for one or more fields of the protocol *(i.e. the layer pointer is updated to point to the most recently established protocol layer object. At block 154, the process then checks whether there are additional layer definitions in the stack definition file. If there is still another layer to add, the process returns to block 142 and attempts to add the layer identified by the next layer definition, col. 11, line 65 to col. 12, line 4*).

As per claim 10, Pearson teaches the apparatus further comprising a network interface couple to the translation unit *(Fig. 1)*.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 11, 14, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pearson (US Patent No. 5,903,754), in view of Smith (US Patent No. 7,278,061).

As to claims 2, 11, 14, 22, Pearson does not explicitly teach the file is written in an Extensible Markup Language (XML).

Smith teaches this limitation in Fig. 2 (i.e. XML protocol description).

It would have been obvious to one of ordinary skill of the art having the teaching of Pearson and Smith at the time the invention was made to modify the system of Pearson to include the limitations as taught by Smith. One of ordinary skill in the art would be motivated to make this combination in order to access a protocol description, supply one or more parameters for use in building the

packet in view of Smith (Summary), as doing so would give the added benefit of having the test devices continually add support for new protocols to the test devices, by coding rules and interpretations of the new protocols into the software used to construct test packets as taught by Smith (col. 1, lines 48-57).

Response to Arguments

With respect to claims 1-23, Applicants have amended the independent claims 1, 9, 13, 21 to recite a new limitation the received packets are translated "into a proper format for analyzing..."; however, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will

the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (571) 272-4112. The examiner can normally be reached on Monday through Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James K. Trujillo, can be reached at (571) 272-3677. The fax number to this Art Unit is (571)-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Miranda Le/
Primary Examiner, Art Unit 2169

January 28, 2009